SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

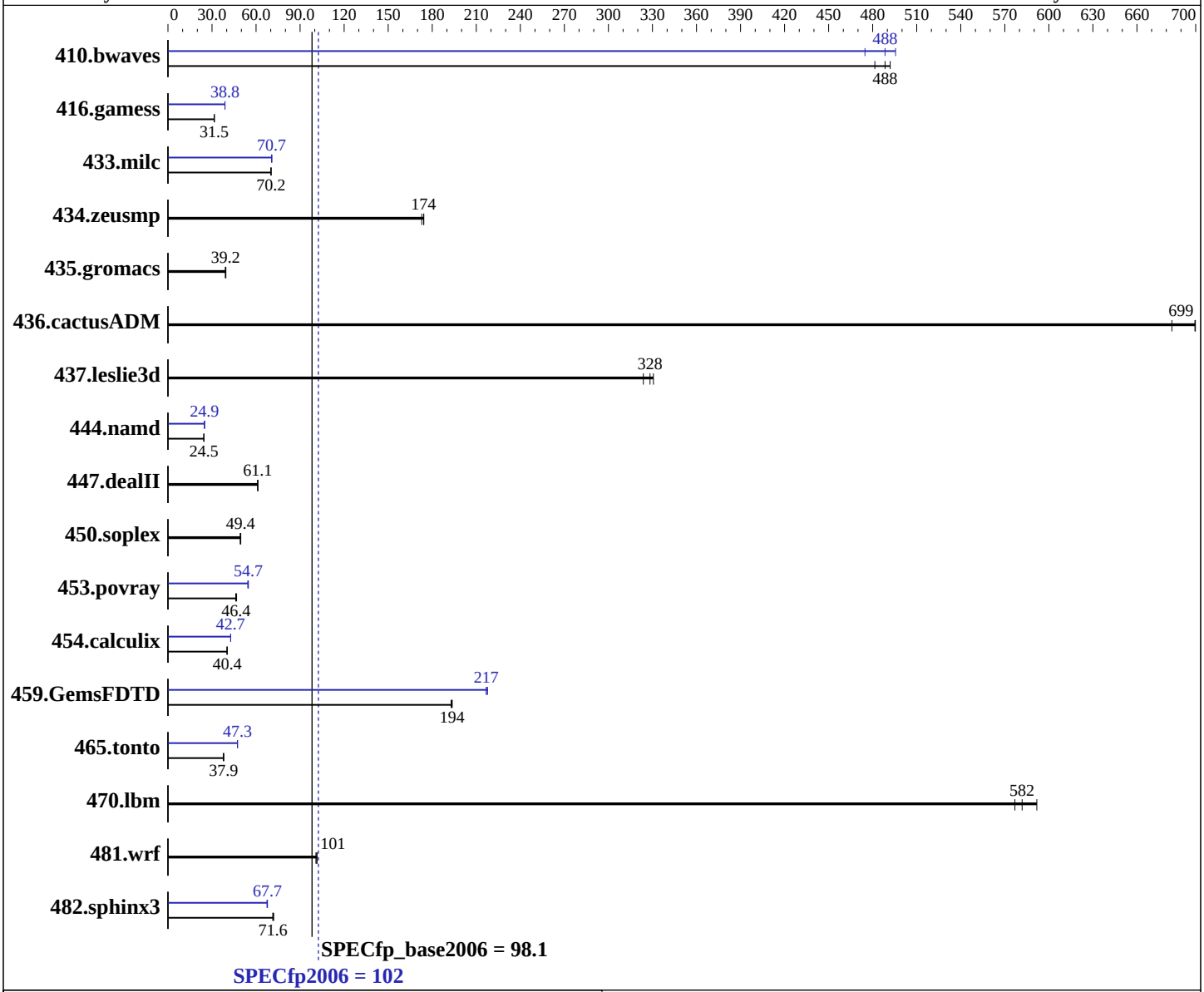
Huawei E9000 CH121 (Intel Xeon E5-2697 v2)

SPECfp®2006 = 102

SPECfp_base2006 = 98.1

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Sep-2013
Hardware Availability: Sep-2013
Software Availability: Feb-2013



Hardware

CPU Name:	Intel Xeon E5-2697 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz:	2700
FPU:	Integrated
CPU(s) enabled:	24 cores, 2 chips, 12 cores/chip
CPU(s) orderable:	1,2 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

Continued on next page

Software

Operating System:	Red Hat Enterprise Linux Server release 6.4 (Santiago) 2.6.32-358.14.1.el6.x86_64
Compiler:	C/C++: Version 13.0.1.117 of Intel C++ Studio XE for Linux; Fortran: Version 13.0.1.117 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

Huawei E9000 CH121 (Intel Xeon E5-2697 v2)

SPECfp2006 = 102

SPECfp_base2006 = 98.1

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Sep-2013
Hardware Availability: Sep-2013
Software Availability: Feb-2013

L3 Cache: 30 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem: 1 x 300 GB SAS, 10K RPM
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	27.6	492	28.2	481	**27.8**	**488**	**27.8**	**488**	28.6	475	27.4	496
416.gamess	621	31.5	**621**	**31.5**	620	31.6	504	38.8	**504**	**38.8**	504	38.8
433.milc	131	70.2	131	70.2	**131**	**70.2**	130	70.7	**130**	**70.7**	130	70.6
434.zeusmp	52.6	173	**52.2**	**174**	52.2	174	52.6	173	**52.2**	**174**	52.2	174
435.gromacs	**182**	**39.2**	183	39.1	181	39.5	**182**	**39.2**	183	39.1	181	39.5
436.cactusADM	17.1	700	17.5	684	**17.1**	**699**	17.1	700	17.5	684	**17.1**	**699**
437.leslie3d	28.4	331	29.0	324	**28.6**	**328**	28.4	331	29.0	324	**28.6**	**328**
444.namd	**328**	**24.5**	328	24.5	328	24.5	**322**	**24.9**	322	24.9	322	24.9
447.dealII	**187**	**61.1**	187	61.2	187	61.1	**187**	**61.1**	187	61.2	187	61.1
450.soplex	**169**	**49.4**	168	49.6	169	49.3	**169**	**49.4**	168	49.6	169	49.3
453.povray	115	46.2	114	46.8	**115**	**46.4**	97.9	54.4	97.1	54.8	**97.3**	**54.7**
454.calculix	205	40.2	204	40.4	**204**	**40.4**	193	42.7	193	42.8	**193**	**42.7**
459.GemsFDTD	55.0	193	**54.8**	**194**	54.8	194	48.7	218	**48.9**	**217**	48.9	217
465.tonto	261	37.7	**260**	**37.9**	259	38.0	**208**	**47.3**	208	47.3	208	47.4
470.lbm	**23.6**	**582**	23.2	592	23.8	577	**23.6**	**582**	23.2	592	23.8	577
481.wrf	110	102	111	101	**110**	**101**	110	102	111	101	**110**	**101**
482.sphinx3	273	71.4	271	72.0	**272**	**71.6**	289	67.4	**288**	**67.7**	288	67.7

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

Platform Notes

```
BIOS Configurations:
VT Support set to Disabled
Memory Power Saving set to Disabled
ISOCH set to Disabled
C3 and C6 set to Enabled
HT Support set to Disabled
Sysinfo program /spec/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on RH64-spec Mon Sep  2 23:46:49 2013
```

Continued on next page

Platform Notes (Continued)

```
This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2697 v2 @ 2.70GHz
      2 "physical id"s (chips)
      24 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 12
      siblings  : 12
      physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
      physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
   cache size : 30720 KB

From /proc/meminfo
   MemTotal:       132103952 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux RH64-spec 2.6.32-358.14.1.el6.x86_64 #1 SMP Tue Jul 16 23:51:20 UTC
   2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Sep 2 16:44

SPEC is set to: /spec
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/sda2      ext4    289G   40G  234G  15% /

Additional information from dmidecode:
  Memory:
   6x Samsung M393B1K70CH0-CH9 8 GB 1867 MHz 2 rank
   10x Samsung M393B1K70DH0-CH9 8 GB 1867 MHz 2 rank

(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,0,1"
LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64"
OMP_NUM_THREADS = "24"

 Binaries compiled on a system with 2 x Xeon X5645 CPU + 16GB memory
 using RHEL 6.1
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

Base Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc  -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

Base Portability Flags

```
    410.bwaves: -DSPEC_CPU_LP64
    416.gamess: -DSPEC_CPU_LP64
      433.milc: -DSPEC_CPU_LP64
    434.zeusmp: -DSPEC_CPU_LP64
   435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
   437.leslie3d: -DSPEC_CPU_LP64
     444.namd: -DSPEC_CPU_LP64
   447.dealII: -DSPEC_CPU_LP64
    450.soplex: -DSPEC_CPU_LP64
    453.povray: -DSPEC_CPU_LP64
   454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
     465.tonto: -DSPEC_CPU_LP64
       470.lbm: -DSPEC_CPU_LP64
       481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
  482.sphinx3: -DSPEC_CPU_LP64
```

Base Optimization Flags

C benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias
```

Fortran benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

Peak Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc  -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel

Continued on next page

Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias -auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel -static

416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -inline-level=0 -opt-prefetch -parallel

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revG.20131009.html
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revG.20131009.xml
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 17:11:31 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 October 2013.